

REMARKS

The Applicants request reconsideration of the rejection.

Claims 1, 4-5, 8, 10 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Badamo et al., U.S. Patent Publication No. 2002/0181476 (Badamo) in view of Fukumoto et al., U.S. Patent Publication No. 2003/0012139 (Fukumoto) and Gilbert et al., U.S. Patent No. 6,771,595 (Gilbert). The Applicants traverse as follows.

The invention as defined in independent claim 1 relates to an apparatus of transmitting packets, comprising a plurality of line cards, switches connected to the plurality of line cards, extension function processors connected to the switches, and a statistic information collecting processor connected to the switches. The statistic information collecting processor predicts the amounts of packets to be received by the line card interfaces from header information imparted to the packets and the amount of packets which have been analyzed, and on the basis of the amount of packets predicted, an extension function processor is selected to which the packets are transmitted.

The Office Action asserts Badamo and Fukumoto as disclosing numerous limitations of claim 1, but notes that neither Badamo nor Fukumoto mention the selection of an extension function processor based on the predicted number of packets. However, according to the Office Action, Gilbert fills this missing teaching by disclosing an expert system that predicts future traffic patterns based on the number of packets received and transmitted, for reallocating memory between a receiving and transmitting device. Therefore, the Office Action asserts that the person of ordinary skill would obviously combine the teachings of Badamo and

Fukumoto with the stated teachings of Gilbert to achieve the invention defined in claim 1.

Respectfully, however, any combination of Gilbert with the teachings of Badamo and Fukumoto would still fail to reach the invention set forth in claim 1. The Applicants acknowledge that Badamo shows a basic apparatus employing line cards and service cards, wherein one might equate the service cards with the claimed extension function processors. However, Badamo discloses no structure corresponding to the claimed statistic information collecting processor. Therefore, there is clearly no suggestion, according to Badamo, to select a functional unit for load balancing, or in terms of claim 1, to select a service card to which packets are transmitted, on the basis of the amount of packets predicted from header information and the amount of packets which have been analyzed.

Moreover, although Fukumoto discloses line cards and a switch, and one might imagine that Fukumoto's CPU gathers information from a line card in a manner similar to the operation of the claimed statistic information collecting processor, Fukumoto in fact neither discloses nor suggests to select anything in the manner of selecting an extension function processor as claimed. In fact, Fukumoto does not disclose management of plural function cards such that any combination with Badamo would approach the claimed apparatus.

The additional reference to Gilbert discloses a different architecture; indeed, Gilbert is applied so broadly that it appears that only hindsight reasoning could prompt one to consider Gilbert a suitable reference to combine with Badamo and Fukumoto. In particular, Gilbert is directed to network control wherein, as noted in the Office Action, future traffic patterns are predicted based on number of packets

received and transmitted. However, Gilbert discloses a resource controller that adds and removes memory as needed, and does not select a functional unit for processing as in the manner of the claimed selection of an extension function processor.

Moreover, there is no motivation to combine the non-analogous art of Gilbert with Badamo and Fukumoto, and any attempted combination would teach away and/or frustrate the purpose of Badamo. Note that Badamo's paragraph [0047] suggests that modification of the processing load is based on the service card's own determination of throughput, without consideration of the throughput of any other service card. Such is not truly a load balancing, and therefore to modify Badamo according to Gilbert, based on the amount of traffic and prediction of future traffic would alter the purpose of Badamo.

Additionally, Gilbert changes the memory allocation without consideration of load balancing or throughput, so if one were to modify Badamo according to Gilbert, one would utilize future prediction to change the memory allocation of the Badamo system according to Gilbert, and would not determine where to send packets for load balancing, because Gilbert does not consider load balancing. Of course, there is no selection of an external function processor as claimed, and thus any combination would nevertheless fail to reach the claimed invention.

Independent claim 12 is directed to a method of transmitting packets that includes a step of selecting, from the extension function processors, an extension function processor to which the received packet is transmitted on the basis of the number of packets predicted, which are in turn predicted on the basis of the number

of packets counted. Therefore, for similar reasons to those advanced above, claim 12 is patentable.

Dependent claims 4-5, 8 and 10 are derived from claim 1, and are thus patentable as well, although their separate patentability is not argued at this time.

Claims 6-7 and 13-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Badamo in view of Fukumoto, Gilbert, and Shiota, U.S. Patent No. 6,987,762 (Shiota). Further, claim 11 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Badamo, Fukumoto, Gilbert, and Kakisada, et al., US 2001/0039558 (Kakisada). These claims are dependent from either claim 1 or claim 12, however, and are thus patentable as well. In addition, neither Shiota nor Kakisada discloses those features of the present invention, argued above, which are missing from Badamo, Fukumoto, and Gilbert.

In view of the foregoing amendments and remarks, the Applicants request reconsideration of the rejection and allowance of the claims.

To the extent necessary, the Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger, Malur & Brundidge, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. H-1100).

Respectfully submitted,

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